Academic Program Review

ACADEMIC YEAR	SPRING 2014	☐ Basic Skills ☐ Transfer ☒ Career Technical Education (CTE)
PROGRAM	AUTOMOTIVE TECHNOLOGY	
DEPARTMENT	INDUSTRIAL TECHNOLOGY	
DIVISION	WORKFORCE DEVELOPMENT	
SUBMITTER	JOSE LOPEZ & RICARDO PRADIS	

I. INSTITUTIONAL GOALS

INSTITUTIONAL GOAL **1**	**INSTITUTIONAL MISSION AND EFFECTIVENESS** – The College will maintain programs and services that focus on the mission of the College supported by data-driven assessments to measure student learning and student success.
INSTITUTIONAL GOAL **2**	**STUDENT LEARNING PROGRAMS AND SERVICES** – The College will maintain instructional programs and services which support student success and the attainment of student educational goals.
INSTITUTIONAL GOAL **3**	**RESOURCES** – The College will develop and manage human, technological, physical, and financial resources to effectively support the College mission and the campus learning environment.
INSTITUTIONAL GOAL **4**	**LEADERSHIP AND GOVERNANCE** – The Board of Trustees and the Superintendent/President will establish policies that assure the quality, integrity, and effectiveness of student learning programs and services, and the financial stability of the institution.

II. PROGRAM GOALS

A. PAST – EVALUATION OF PREVIOUS CYCLE OBJECTIVES/PROGRAM GOALS (SET IN PREVIOUS YEAR)

List your previous objectives/goals and associated Institutional Goals. All program goals must address at least one of the institutional goals.

PAST PROGRAM GOALS (Describe past program goals.)	INSTITUTIONAL GOAL(S) (Check all that apply.)

1	PAST PROGRAM GOAL #1	INSTITUTIONAL GOAL(S)
	Identify Program Goal from Last Program Review: The Automotive Department provides education that combines structure on-the-job training with classroom instruction and responds to labor market needs and maintain objectivity of degrees and certificate programs. This will assure our students, employers, and the community that our programs will fit and meet the requirements of today's technology. The automotive program is fully certified by the National Automotive Technicians Education Foundation (NATEF). This certification ensures the student will receive training in automotive repair that meets automotive industry standards. Our goal is to continue with requirements for National Automotive Technicians Education Foundation (NATEF) accreditation. These achievable goals will bring the Automotive Technology Department to the forefront of automotive technology education.	☒ 1 ☒ 2 ☒ 3 ☐ 4
	☒ **Met** ☐ Partially Met ☐ Not Met **Provide detail on any improvements/effectiveness and detail status on those not fully met:**	

2	PAST PROGRAM GOAL #2	INSTITUTIONAL GOAL(S)
	Identify Program Goal from Last Program Review: The Automotive Program is in the process of updating its curriculum. Developing new certificates of achievement will provide student retention, completion and success rates.Curriculum update has been recommended by the advisory committee.The mission of the Automotive Technology department is to train future automotive technology students for job entry positions and provide upgrade training for experienced technicians. Success rate is impacted by students leaving early with job opportunities. Although the majority of students intend to earn a certificate or degree, many gain employment after enrolling in only one or two classes and are therefore not tracked nor identified as program completers.	☒ 1 ☒ 2 ☒ 3 ☐ 4
	☐ Met ☒ Partially Met ☐ Not Met **Provide detail on any improvements/effectiveness and detail status on those not fully met:** Required documentation has been submitted to curriculum committee for review and consideration.	

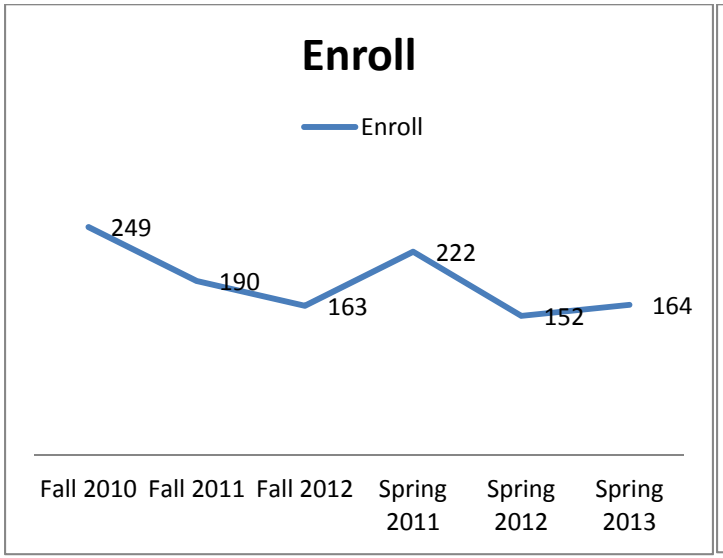
3	PAST PROGRAM GOAL #3	INSTITUTIONAL GOAL(S)
	Identify Program Goal from Last Program Review: Diesel Technology Program has been recommended and approved by the advisory committee due to a high demand for diesel skilled technicians in the valley. Curriculum has been submitted to curriculum committee for approval.	☒ 1 ☒ 2 ☒ 3 ☐ 4
	☐ Met ☒ Partially Met ☐ Not Met **Provide detail on any improvements/effectiveness and detail status on those not fully met:** Required documentation has been submitted for review and consideration.	

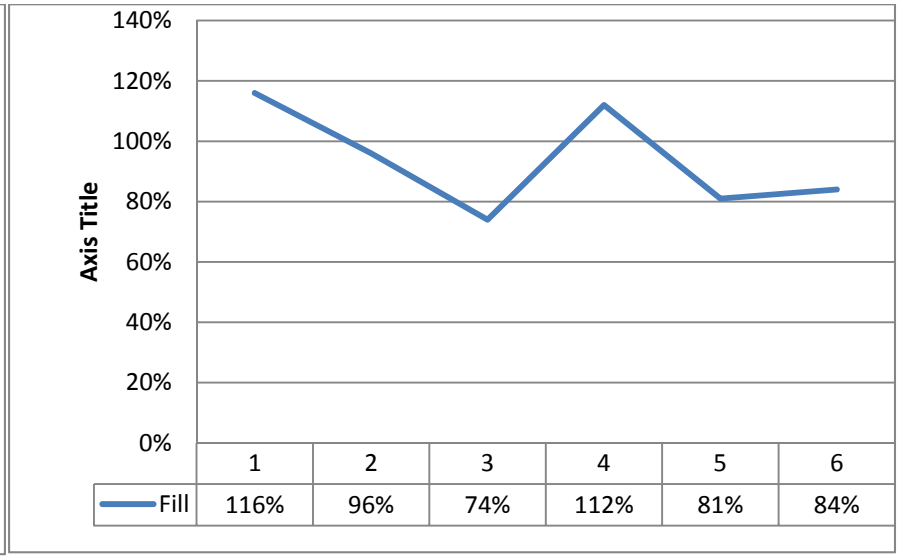
Comments:

B. PRESENT – DATA ANALYSIS AND PROGRAM HEALTH

1. Summarize and analyze all disaggregated data by day, evening, gender, ethnicity, and distance education regarding enrollments, fill rates, productivity, completion, success, retention, persistence, and transfer (complete a, b, & c). ***Attach graphs or trend data***.

   a. Discuss and chart the trends in enrollment and fill rate for each program by day and evening at the program level.

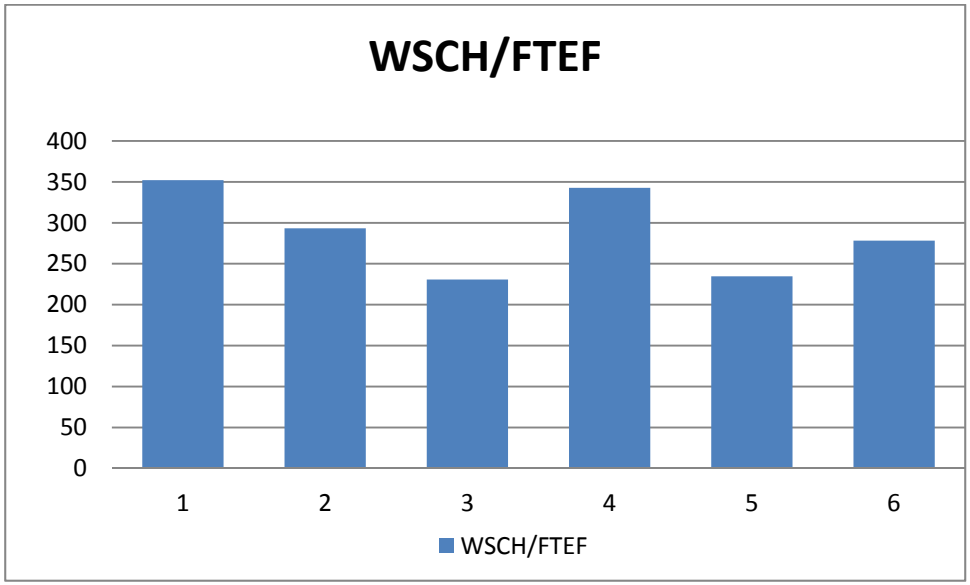




	1	2	3	4	5	6
Fill	116%	96%	74%	112%	81%	84%

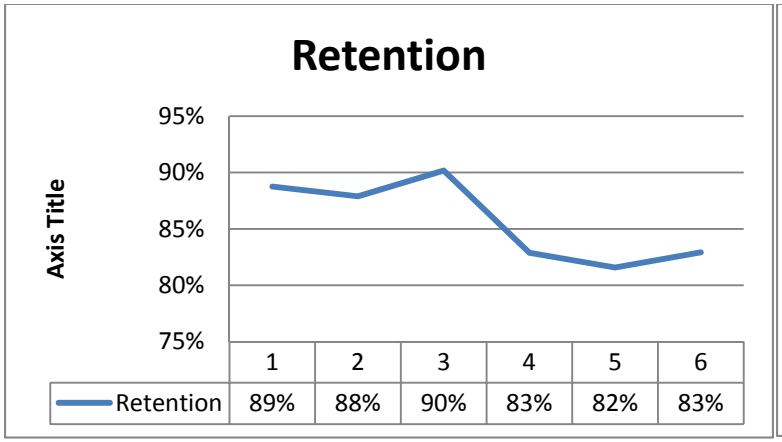
Enrollment and fill rate have declined mainly because we are teaching less number of sections. In the past we had helped from counselors to reached different high schools in the valley to let them know about our program and this outreach has stop. We need to establish communication with counselors to find new means of outreach within the valley high schools. Also the program enrollment fluctuates inversely to the state and local economic health.

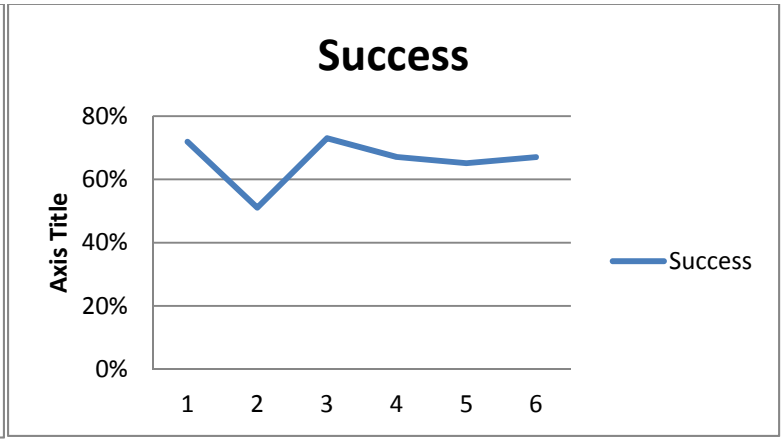
b. What are the trends in productivity? (WSCH/FTEF) The goal is 525 as per state guidelines. A low number means that we are below target levels for productivity. For example, in a small class that has a mandated cap of 15 students, the fill rate may be 100% but the productivity number (WSCH/FTEF) will be very low. A class with a cap of 40 students with a 100% fill rate will have a productivity number close to or above 525.



The mission of the Automotive Technology department is to train future automotive technology students for job entry positions and provide upgrade training for experienced technicians. Enrollment in career and technical education courses shall not exceed the number of individual work stations. Career and technical education laboratory classes which use equipment that has been identified by the U.S. Department of Labor for hazardous occupations shall be limited to a maximum of 20 students per laboratory. In the Automotive Program, the enrollment is steady between 70 -100 percent with 18-20 students per class.

c. Discuss and chart the success and retention rates by day, evening (extended day), and online classes in each program and identify gaps.





In the Automotive Program, retention and success is steady between 83 and 89 percent. The department is developing new certificates of achievement to provide further retention, completion, and success rate.

d. Discuss and chart the success and retention rates in each program and identify gaps for five ethnic groups. (African-American, White, all Hispanics, Other, Unknown).

Ethnicity

AUT	African-Am			Am. Ind or A.N.			Asian			Filipino			Hispanic			Mexican, M.A.		
Term	#	Success	Retention	#	Success	Retention	#	Success	Retention	#	Success	Retention	#	Success	Retention	#	Success	Retention
Fall 2010	1	0%	100%										141	66%	87%	81	80%	93%
Fall 2011	1	0%	100%										121	47%	89%	49	63%	88%
Fall 2012													122	75%	93%	22	86%	86%
Spring 2011	1	100%	100%										125	70%	87%	72	63%	76%
Spring 2012													98	56%	76%	36	81%	92%
Spring 2013													124	60%	79%	28	93%	96%
Totals	3	33%	100%	0	NA	NA	0	NA	NA	0	NA	NA	731	63%	85%	288	75%	88%

IVC reflects the Communities Ethnicity and the Automotive Program reflects IVC ethnicity for Hispanic Students.

e. Discuss the trends in the number of degrees or certificates awarded, if applicable. (You may be able to expand more about this in B.3 below.)

Degrees and certificates awarded are impacted by students leaving early with job opportunities. Although the majority of students intend to earn a certificate or degree, many gain employment after enrolling in only one or two classes and are therefore not tracked nor identified as program completers. Tracking of students is almost none existent and ineffective, once students leave the school. Students move, change phone numbers and do not up-date their information to the school. Some students will occasionally keep in verbal contact, but most do not. Training also prepares students to pass the Automotive Service Excellence (ASE), a national automotive technician certification, recognized by the automotive industry and gives credibility to our trained students.
The Automotive Program is in the process of updating its curriculum that will provide student retention, completion and success rates. Curriculum update is in the process and completion is anticipated.

f. What program changes, if any, will you recommend that you expect would have a positive effect on your students in your program, if applicable?

Established additional certificates for students who do not complete all the courses, but choose to specialize in one of the eight areas of the automobile. The department is in the process of developing certificates of achievement. Procure new tools and equipment to provide a safe and efficient learning environment. Tools and equipment will integrate and represent the latest technology and meets NATEF requirements, continue with professional development to stay abreast of technology and the new diesel program will bring enrollment, fill rate and more chances for student employment.

2. Summarize revisions, additions, deletions, or alternate delivery methods to courses and/or program based on the last program review.

   The Automotive Program is in the process of updating its curriculum. Developing new certificates of achievement will provide student retention, completion and success rates. Curriculum update has been recommended by the advisory committee. Updating our curriculul will give the student more skills and more chances of employment opportunities in the automotive industry and the addition of the new diesel program.

3. Evaluate the program's viability by addressing program completion, size (FTES), projections (growing/stable/declining), and quality of outcomes. For CTE programs, also include labor market projections, placement, and performance on external testing/exams (i.e. ASE, NABCEP) and industry-recognized credentials, placement, and performance on external testing or exams (NCLEX, ASC, NAP).

   The Automotive Department provides education that combines structure on-the-job training with classroom instruction and responds to labor market needs and maintain objectivity of degrees and certificate programs. This will assure our students, employers, and the community that our programs will fit and meet the requirements of today's technology.
   The automotive program is fully certified by the National Automotive Technicians Education Foundation (NATEF). This certification ensures the student will receive training in automotive repair that meets automotive industry standards. Upon completion of the program a student will be prepared for an entry-level position in the automotive industry. The program is established on a firm foundation of fundamentals. Preparing students to be lifelong learners is essential to success in the automotive industry.
   The primary reason students attend the automotive program is to gain the skill needed to get a job in the automotive industry. Success rate is impacted by students leaving early with job opportunities. Most students start at job entry levels at independent and dealership shops. Eventually, some students start their own auto business. These include but are not limited to repair shops, consulting, parts department, specialized areas such as vehicle inspection and evaluation. Women have been trained by this program and have secured employment. Although the majority of students intend to earn a certificate or degree, many gain employment after enrolling in only one or two classes and are therefore not tracked nor identified as program completers. Tracking of students is almost none existent and ineffective, once students leave the school. Students move, change phone numbers and do not up-date their information to the school. Some students will occasionally keep in verbal contact, but most do not. Training also prepares students to pass the Automotive Service Excellence (ASE), a national automotive technician certification, recognized by the automotive industry and gives credibility to our trained students. A Diesel Technology program is underway recommended by the advisory committee due to the high demand for skilled diesel technicians in the valley.

C. FUTURE – LIST OF "SMART" (SPECIFIC MEASURABLE ATTAINABLE RELEVANT TIME-LIMITED) PROGRAM OBJECTIVES FOR NEXT ACADEMIC YEAR TO ADDRESS PROGRAM IMPROVEMENT, GROWTH, OR UNMET NEEDS/GOALS. ALL PROGRAM GOALS MUST ADDRESS AT LEAST ONE OF THE INSTITUTIONAL GOALS.

FUTURE PROGRAM GOALS (Describe future program goals. List in order of budget priority.)	INSTITUTIONAL GOAL(S) (Check all that apply.)

1	FUTURE PROGRAM GOAL #1 Budget Priority #1	INSTITUTIONAL GOAL(S)
Identify Goal: Curriculum modification certificates of achievement completion		☒ 1 ☒ 2 ☒ 3 ☐ 4
Objective: Curriculum modification has been approved by Curriculum Committee. Pending approval by Academic Senate and subsequent by the Board of Trustees.		
Task(s): Submit necessary documentation by April 2014 to chancellors office for review and consideration.		
Timeline: Fall 2014 completed		

EXPENSE TYPE	FUNDING TYPE		RESOURCE PLAN (Check all that apply.)	BUDGET REQUEST
☐ One-Time ☐ Recurring	☐ Categorical Specify:	☐ General Fund	☐ Facilities ☐ Marketing ☐ Technology ☐ Professional Development ☐ Staffing	$_____

2	FUTURE PROGRAM GOAL #2 Budget Priority #2	INSTITUTIONAL GOAL(S)
Identify Goal: Continue with requirements for National Automotive Technicians Education Foundation (NATEF) accreditation. These achievable goals will bring the Automotive Technology Department to the forefront of automotive technology education.		☒ 1 ☒ 2 ☒ 3 ☐ 4
Objective: This certification ensures the student will receive training in automotive repair that meets automotive industry standards. Upon completion of the program a student will be prepared for an entry-level position in the automotive industry.The automotive industry is a continuing evolution of new technologies		
Task(s): Maintain facilities to industry standards,procure new tools and equipment to provide a safe and efficient learning environment, and continue to seek training for faculty.		
Timeline: 2014 gather task information, maintain facilities, inventory, update tools, equipment , and professional development. An evaluation of the program will be perform in spring 2017		

EXPENSE TYPE	FUNDING TYPE		RESOURCE PLAN (Check all that apply.)	BUDGET REQUEST
☐ One-Time ☒ Recurring	☒ Categorical Specify: Perkins	☐ General Fund	☒ Facilities ☒ Marketing ☒ Technology ☒ Professional Development ☐ Staffing	$20,000

3	FUTURE PROGRAM GOAL #3 Budget Priority #3	INSTITUTIONAL GOAL(S)
Identify Goal: Complete approval of Diesel Technology Program		☒ 1 ☒ 2 ☒ 3 ☐ 4
Objective: Diesel Program has been approved by the college and waiting for chancellors approval.		
Task(s): Submit necessary reports and documentation to ACCJC for review and consideration.		
Timeline: Expected to be completed by fall 2015		

EXPENSE TYPE	FUNDING TYPE		RESOURCE PLAN (Check all that apply.)	BUDGET REQUEST
☐ One-Time ☐ Recurring	☐ Categorical Specify:	☐ General Fund	☐ Facilities ☐ Marketing ☐ Technology ☐ Professional Development ☐ Staffing	$_____

TOTAL BUDGET REQUEST	$_____

1. How will your enhanced budget request improve student success?

Comments: This request will support the automotive program to continue with requirements for National Automotive Technicians Education Foundation (NATEF) accreditation. These achievable goals will bring the Automotive Technology Department to the forefront of automotive technology education. The Automotive Program is in the process of updating its curriculum that will provide student retention, completion and success rates. Form stronger partnerships with industry and articulate regional occupational centers and high schools. Continue Advisory Committee meetings and visit high schools, plan, organize, and conduct fieldtrips to local dealerships, independent shops, and service centers. Continue to seek training for faculty. Maintain facilities to provide a safe and efficient learning environment. Procure new Tools, equipment that will integrate and represent the latest technology and the new diesel program will open doors for student employment.

III. INSTITUTIONAL STUDENT LEARNING OUTCOMES (ISLOs)

ISLO 1	COMMUNICATION SKILLS
ISLO 2	CRITICAL THINKING SKILLS
ISLO 3	PERSONAL RESPONSIBILITY
ISLO 4	INFORMATION LITERACY
ISLO 5	GLOBAL AWARENESS

IV. PROGRAM LEARNING OUTCOMES (PLOs)

PROGRAM LEARNING OUTCOMES (Describe learning outcomes.)	**ISLO(S)** [Link PLO to appropriate ISLO(s).]

PLO 1	**PROGRAM LEARNING OUTCOME #1**	**ISLO(S)**
	Identify Program Outcome: Describe the purpose of the fundamental automotive systems**.**	☒ ISLO 1 ☒ ISLO 2 ☒ ISLO 3 ☒ ISLO 4 ☒ ISLO 5
	Measurable Outcome Summary: Students learn the principles of operation, construction, and testing procedures of various systems and components to enhance their trouble shooting skills and knowledge. Students are tested and must demonstrate their competence in each of the ISLOs, all areas are touch in the courses but some are brief and not assessed.	
	☐ Met ☒ Partially Met ☐ Not Met **Provide detail on any improvements/effectiveness and detail status on those not fully met:** More information is needed to asses this outcome.	

PLO 2	PROGRAM LEARNING OUTCOME #2	ISLO(S)
	Identify Program Outcome: Describe the type of skills needed to be an auto technician.	☒ ISLO 1 ☒ ISLO 2 ☒ ISLO 3 ☒ ISLO 4 ☒ ISLO 5
	Measurable Outcome Summary: Students are tested and must demonstrate their competence in each of the ISLOs, all areas are touch in the courses but some are brief and not assessed. Many of the basic skills needed tosucceed in automotive technology are learned in the classroom.The technician must be highly skilled and well trained. He or she must be able to perform a wide variety of task. Many students start their careers as automotive technicians and then move to other related jobs they are thaught to never limit their sights on the future and always try to improve their skills and potential for a new and better job.	
	☐ Met ☒ Partially Met ☐ Not Met **Provide detail on any improvements/effectiveness and detail status on those not fully met:** More information is needed to assess this outcome.	

PLO 3	PROGRAM LEARNING OUTCOME #3	ISLO(S)
	Identify Program Outcome: Correctly answer ASE certification test questions that require a knowledge of the major parts and systems of a vehicle.	☒ ISLO 1 ☒ ISLO 2 ☒ ISLO 3 ☒ ISLO 4 ☒ ISLO 5
	Measurable Outcome Summary: In automotive technology there are eight test categories. ASE tests are designed to measure student knowledge of three things: The operation of various automotive systems and components, the diagnosis of various systems and components, and the repair of automotive systems and components. Students are tested and must demonstrate their competence in each of all eight areas. The content, scope, and organization of every course are developed with ASE certification test in mind. Additionally , sample ASE tests are presented at the ends of each course.	

	☐ Met ☒ Partially Met ☐ Not Met **Provide detail on any improvements/effectiveness and detail status on those not fully met:** more information is needed to asses this outcome.	

***** ATTACH PLO/SLO GRID *****

Program Learning Outcomes:

1.Outcome #1: Describe the purpose of the fundamental automotive systems.(Identified)

2.Outcome #2: Describe the type of skills needed to be an auto technician.(Identified)

3.Outcome #3: Correctly answer ASE certification test questions that require a knowledge of the major parts and systems of a vehicle. (Identified)

Student Learning Outcomes:

Course	SLO's	Cycle Assessment Completed	ISLO Linked To
AU T 070	1. Identify the major parts of an automotive brake system. 2. Explain the operating principles of steering systems. 3. Perform fundamental electrical test.	Identified	1. ILO1, ILO3, ILO4 2. ILO1, ILO3, ILO4 3. ILO1, ILO3, ILO4.
AU T 075	1. Identify and locate the most important parts of a vehicle. 2. Identify common automotive hand tools. 3. Select the right tool for a given job.	Identified	1. ILO1, ILO4 2. ILO1, ILO3, ILO4 3. ILO1, ILO3, ILO4
AU T 085	1. Explain the interaction of automotive systems. 2. Describe the purpose of the fundamental automotive system. 3. Describe the type of skills needed to be an auto technician.	Identified	1. ILO1, ILO3, ILO4 2. ILO1, ILO3, ILO4 3. ILO1, ILO3, ILO4

AU T 110	1. Identify and interpret engine concerns; determined necessary action 2. Perform cylinder cranking and running compression test; determined necessary action. 3. Remove cylinder head; inspect gasket condition; install cylinder head and gasket; tighten according to manufacturer's specifications and procedures. 4. Disassemble engine block; clean and prepare components for inspection and reassembly.	Identified	1. ILO1, ILO2, ILO3 2. ILO1, ILO2, ILO3 3. ILO1, ILO2, ILO3 4. ILO1, ILO2, ILO3
AU T 120	1. Describe engine size measurements based on bore, stroke, displacement, and number of cylinders. 2. Explain engine compression and how it affects engine performance. 3. Explain engine torque and horsepower ratings. 4. Explain volumetric efficiency, thermal efficiency, mechanical efficiency, and total engine efficiency.	Identified	1. ISLO1, ISLO2, ISLO4 2. ISLO1, ISLO2, ISLO4 3. ISLO1, ISLO2, ISLO3, ISLO4 4. ISLO1, ISLO2, ISLO4.
AU T 122	1. Describe safety practices to be follow when performing engine bottom and service. 2. Explain how to measure cylinder and piston wear. 3. Identify and interpret engine top end, and engine blueprinting system concern; determined necessary action. 4. Students will create an engine layout to determine engine components needed to repair with modern engine equipment.	Identified	
AU T 125	1. Identify and interpret brake system concern; determine necessary action. 2. Diagnose pressure concerns in the brake system using hydraulic principles. (Pascal's Law) 3. Diagnose poor stopping, noise, vibration, pulling, graving, dragging or pedal pulsation concerns; determine necessary action. 4. Identify and inspect electronic brake control systems components; determine necessary action.	Identified	1. SLO1, SLO2, SLO3 2. SLO1, SLO2, SLO3 3. SLO1, SLO2, SLO3 4. SLO1, SLO2, SLO3

AU T 130	1. Identify and interpret electrical/electronic system concern; determine necessary action. 2. Use wiring diagrams during diagnosis of electrical circuit problems. 3. Demonstrate the proper use of a digital multimeter (DMM) during diagnosis of electrical circuit problems, including; source voltage, voltage drop, current flow, and resistance.	Identified	1. ILO1, ILO2, ILO3 2. ILO1, ILO2, ILO3 3. ILO1, ILO2, ILO3
AU T 150	1. Describe the action of basic electric circuits. 2. Compare voltage, current, and resistance. 3. Explain different kinds of automotive wiring. 4. Perform fundamental electrical tests.	Identified	1. ILO1, ILO3, ILO4 2. ILO1, ILO3, ILO4 3. ILO1, ILO3, ILO4 4. ILO1, ILO3, ILO4
AU T 155	1. Identify and interpret suspension and steering system concerns; determined necessary action. 2. Diagnose steering column noises, looseness, and binding concerns (including tilt mechanisms); determine necessary action. 3. Inspect, remove, and replace shock absorbers. 4. Inspect tire condition; identify tire wear patterns; check and adjust air pressure; determine necessary action.	Identified	1. ILO1, ILO2, ILO3 2. ILO1, ILO2, ILO3 3. ILO1, ILO2, ILO3 4. ILO1, ILO2, ILO3
AU T 160	1. Identify and interpret engine performance concern; determined necessary action 2. Retrieve and record diagnostic trouble codes, OBD monitor status, and freeze and frame data; clear codes when applicable 3. Diagnose emissions or driveability concerns without store diagnostic trouble codes; determined necessary action	Identified	1. ILO1, ILO2, ILO3 2. ILO1, ILO2, ILO3 3. ILO1, ILO2, ILO3
AU T 170	1. Research applicable vehicle and service information such as engine management system operation, vehicle service history, service precautions, and service technical bulletins. 2. Locate and interpret vehicle and major component identification numbers. 3. Check for module communication (including CAN/BUS systems) errors using a scan tool.	Identified	1. ILO1, ILO2, ILO3 2. ILO1, ILO2, ILO3 3. ILO1, ILO2, ILO3

AU T 180	1. Identify and interpret drive train concerns; determine necessary action. 2. Diagnose clutch noise, binding, slippage, pulsation, and chatter; determine necessary action. 3. Remove and reinstall transmission/transaxle. 4. Diagnose constant-velocity (CV) joint noise and vibration concerns; determine necessary action.	Identified	1. ILO1, ILO2, ILO3 2. ILO1, ILO2, ILO3 3. ILO1, ILO2, ILO3 4. ILO1, ILO2, ILO3
AU T 210	1. Identify and interpret heating and air conditioning concern; determined necessary action. 2. Perform A/C system test; identify A/C system malfunctions. 3. Diagnose A/C system conditions that cause the protection devices to interrupt system operation.	Identified	1. ILO1, ILO2, ILO3 2. ILO1, ILO2, ILO3 3. ILO1, ILO2, ILO3
AU T 220	1. Diagnose fluid loss and condition concerns; check fluid level in transmissions with and without dipstick; determine necessary action. 2. Inspect and replace external seals, gaskets, and bushings. 3. Disassemble, clean, and inspect transmission/transaxle. 4. Assemble transmisión/transaxle.	Identified	1. ILO1, ILO2, ILO3 2. ILO1, ILO2, ILO3 3. ILO1, ILO2, ILO3 4. ILO1, ILO2, ILO3
AU T 230	1. Diagnose the causes of emissions or driveability concerns with store or active diagnostic trouble codes; obtain graph, and interpret scan tool data. 2. Access and use service information to perform step-by-step diagnosis. 3. Inspect and test ignition primary and secondary circuit wiring and solid state components; perform necessary action.	Identified	1. ILO1,ILO2,ILO3 2. ILO1,ILO2,ILO3 3. ILO1,ILO2,ILO3
AU T 231	1. Use advance diagnostic techniques to trouble-shoot difficult problems. 2. Use scan-tool snapshot and data stream values to find problems not tripping trouble codes. 3. Define the fundamental terms relating to automotive emission control. 4. Explain the sources of air pollution.	Identified	1. ILO1, ILO3, ILO4 2. ILO1, ILO3, ILO4 3. ILO1, ILO3, ILO4, ILO5 4. ILO1, ILO3, ILO4, ILO5

AU T 235	1. Identify and interpret Electrical/ Electronic systems concern; determine necessary action. 2. Diagnose electrical/electronic integrity of series, parallel and series-parallel circuits using principles of electricity (OHM's law). 3. Demonstrate the proper use of a digital multimeter during diagnosis of electrical circuit problems, including: source voltage, voltage drop, current flow, and resistance.	Identified	1. ILO1, ILO2, ILO3 2. ILO1, ILO2, ILO3 3. ILO1, ILO2, ILO3
AU T 240	1. Describe the typical difference between a minor tune-up and major tune-up for diesel engines. 2. Identify all the steps or procedures to perform a diesel engine tune-up. 3. Remove and reinstall different types of diesel pumps and injectors. 4. Test, service and analyze the fuel system and electrical circuits.	Identified	1. ILO1, ILO2, ILO3 2. ILO1, ILO2, ILO3 3. ILO1, ILO2, ILO3 4. ILO1, ILO2, ILO3
AU T 250	1. Identify and interpret transmission/ transaxle concerns; determine necessary action. 2. Perform pressure tests (including transmissions/transaxles equipped) with electronic pressure control. Determine necessary action. 3. Perform lock-up converter system tests; determine necessary action. 4. Remove and reinstall transmission/transaxle and torque converter; Inspect engine core plug rear crankshaft, dowel pins and mating surfaces.	Identified	1. ILO1, ILO2, ILO3, ILO4 2. ILO1, ILO2, ILO3, ILO4 3. ILO1, ILO2, ILO3, ILO4 4. ILO1, ILO2, ILO3, ILO4